Massachusetts Coastal and Estuarine Land Conservation Plan

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I. INTRODUCTION

A. Program Background

The Coastal and Estuarine Land Conservation Program (CELCP) was established by the Department of Commerce, Justice, and State Appropriations Act of 2002. This Act directed the Secretary of Commerce to establish a Coastal and Estuarine Land Conservation Program (CELCP) "for the purpose of protecting important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses," giving priority to lands that can be effectively managed and protected and that have significant ecological value.

In Fiscal Year (FY) 2002, the National Oceanic and Atmospheric Administration (NOAA) was directed by Congress to establish guidelines that would make CELCP project selection an objective and nationally competitive process. To meet this directive, NOAA developed CELCP guidelines that were published in final form in June 2003. One of the key provisions of the guidelines is the requirement that any state that wants to participate in this voluntary program must first prepare a Coastal and Estuarine Land Conservation Plan (CELC Plan or Plan). This Plan must be submitted to NOAA for review and approval prior to the state becoming eligible to submit grant applications under the CELCP.

In FY 2002, \$15.8 million was appropriated for the CELCP to permanently protect lands located in 22 specific projects in coastal and estuarine areas throughout the country. In FY 2003, \$36.7 million was appropriated to permanently protect lands within 18 designated projects nationwide. FY 2004 saw \$51 million appropriated for 34 projects nationwide. Most recently, in FY 2005, \$42.3 million was appropriated for at least 27 projects nationwide. All the projects funded in the first four years of this program have been Congressionally-directed.

B. Plan Purpose

It is expected that at some future date a NOAA approved CELC Plan will be required for any state wishing to participate in the competitive national selection process outlined for the CELCP in the NOAA guidelines. The CELC Plan provides an assessment of priority conservation needs and clear guidance for nominating and selecting coastal and estuarine land conservation projects within the state. NOAA encourages states to keep the plans simple and to make use of existing and appropriate land conservation planning efforts already conducted in the state.

Many coastal states are currently in the planning process for the development of their CELC Plans. NOAA hopes that significant portions of future funding will be awarded through the competitive selection process outlined in their guidelines.

II. COASTAL AND ESTUARINE LAND PROTECTION PRIORITIES

The planning process used to develop the Massachusetts CELC Plan had to address several key challenges or questions to meet NOAA guidelines and ensure a steady stream of highly competitive land conservation projects. The first challenge was to determine the geographic extent of the coastal and estuarine areas that would be included within the Plan. The second was to identify the general types of lands and resources the state most wanted to protect. The

planning process then focused on identification of the potential "project areas" to be included in the plan. All these issues were addressed within the context of creating a CELC Plan, using already existing state and regional plans as building blocks, that was consistent with existing plans, and also extended the thinking on how best to focus coastal and estuarine land protection within Massachusetts. These issues are discussed in greater detail within the following sections.

A. Geographic Extent of Coastal and Estuarine Areas

One of the first tasks to be completed for the Massachusetts CELC Plan was the determination of the geographic extent of the coastal and estuarine areas within the state that would be included in the Plan. In general, the desire of the Massachusetts Office of Coastal Zone Management (CZM) and the CELC Plan Advisory Group, established by CZM to help develop the Plan, was to be geographically inclusive enough to ensure a steady supply of high quality potential projects, but also limiting enough so those potential projects would likely be competitive on the national level. There were several possible options for delineating the geographic extent of the Plan. The most inclusive option would have used the coastal watershed boundary as defined by the 6217 Non-Point Source Program. This boundary includes the watersheds of all coastal rivers within the Commonwealth that discharged to the coastal waters of Massachusetts. Selection of this option would have included more than fifty percent (50.6%)¹ of the entire land area and 219 of the 351 (62.4%) municipalities within Massachusetts. The CELC Plan Advisory Group felt that having a CELCP eligibility area this large would dilute the coastal focus of the program and also potentially result in many communities located far from the coast spending significant time developing CELCP funding applications that would have a difficult time competing with proposals from municipalities with more direct contact with the coastline. Similarly, the Advisory Group also felt that projects from these more distant inland communities would have even greater difficulty competing in the national selection process. For both these reasons this widely inclusive option was not selected.

The other extreme option for delineating the geographic extent of the Plan was to include only those towns or portions of towns that were actually included within the Massachusetts Coastal Zone Boundary as originally defined in the Massachusetts Coastal Zone Management Plan in 1978. The Advisory Committee felt this option would be too limiting because, with the exception of municipalities on Cape Cod and the Islands, most coastal communities have only a very small portion of their land area within the Coastal Zone Boundary. Selection of this option would have eliminated significant portions of the most critical parts of the contributing watershed to many coastal embayments and water bodies. These still undeveloped and relatively close watershed lands can frequently provide important habitat for rare species, as well as provide undisturbed areas of what is becoming less and less available but historically common habitat. Also, these lands are often key management areas for maintaining high water quality in coastal waters, especially when considering management of nitrogen and biological pollutants associated with development. Selection of this option would have also greatly reduced the pool of potential projects. Clearly a more expansive planning area was desirable from a natural resource perspective as well as a logistical perspective, and therefore this limited planning area was not selected.

The third option considered was to include the entire municipality of all towns or cities that have any portion of their land within the Coastal Zone Boundary. In the opinion of the Advisory Group, this option presented the best mixture of inclusiveness to ensure an adequate supply of

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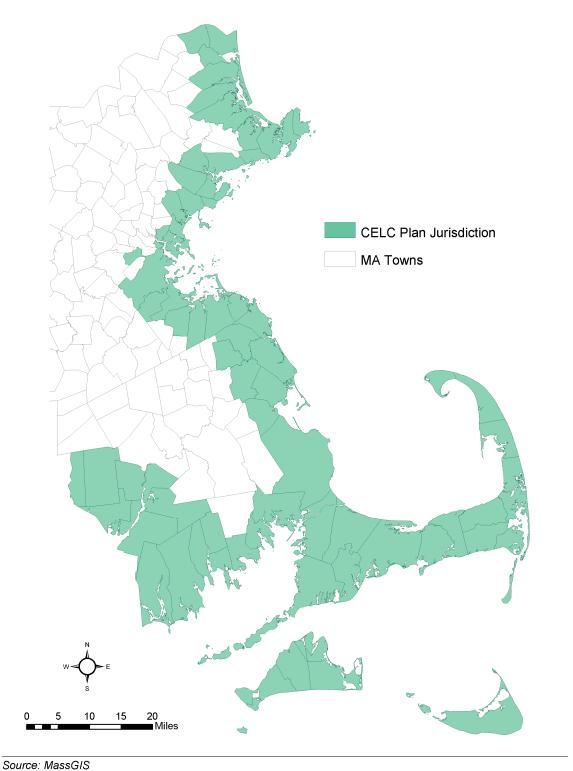
¹ Massachusetts Coastal Nonpoint Pollution Control Plan, February 1995, Page 31

potential projects, and selectivity to help ensure competitiveness on the national level. The group also felt this option offered coastal municipalities the greatest opportunity for using the CELCP to help effectively manage their coastal and estuarine resources by giving them the flexibility to target potential projects in the most important portions of the contributing watershed to coastal and estuarine water bodies and shorelines.

Selection of this third option was also very consistent with the Massachusetts Coastal Zone Management Program, which views communities holistically, and considers a municipality with any portion of its land within the Coastal Zone Boundary as a coastal community. With this decision, the entire land area of 78 coastal communities becomes eligible to compete both at the state and federal level for CELCP funding. This geographic delineation includes approximately 21 percent of the Commonwealth's land area and about 22 percent of its municipalities. These 78 coastal communities are currently experiencing tremendous growth pressures. The richness of coastal natural resources that make these communities desirable places to live are often the same coastal resources that the Massachusetts CELC Plan strives to protect. A map of the proposed geographic extent of the coastal and estuarine lands within Massachusetts for the purposes of the CELCP can be seen in Figure 1.

B. Types of Lands/Values to Be Protected

The CELCP authorizing language states the intent to protect lands "that are threatened by conversion from their natural or recreational state to other uses." The CELC Plan Advisory Group believes that almost all the undeveloped land within the coastal communities of Massachusetts is threatened by development or conversion, with the possible exception of certain wetlands, which may not be developable under the state's Wetland Protection Act Regulations (310 CMR 10.00). Massachusetts is a relatively developed state, especially throughout its coastal areas. Additional pressure from development is intense everywhere in the area included within the CELC Plan; only the immediacy of the development threat varies depending on the stage of the local subdivision process. However, this CELC Plan is not suggesting that the immediacy of the development threat should be a large factor in setting our state's CELC Plan priorities or in selecting specific projects for submittal to NOAA. Unfortunately, the immediacy of the development threat can sometimes cause significant increases to the price of a particular parcel of land, and since state, federal, and local funding resources are always limited, this will mean that economics will often play a role, although a secondary one, in project selection. The Massachusetts CELC Plan focuses on the lands that are likely to have one or more of the values outlined in the NOAA CELCP guidelines: ecological, conservation, recreational, historical, and aesthetic. All of these values are in need of protection in coastal portions of the state while opportunities still exist, especially ecological, recreational, and conservation values. The project proponent for each potential CELCP project submitted to the state will be expected to provide detailed information regarding how that particular piece of land is significant from the perspective of all five values.



334,337, 11,433,376

FIGURE 1—CELC Plan Jurisdiction

The following five attributes were used to help identify the broad priorities for the Massachusetts CELC Plan. In the opinion of the CELC Plan Advisory Group shoreline environments, coastline environments within a 2000-foot buffer of the shoreline, state identified "core habitats" for rare species, large relatively undisturbed natural habitats and the broad conservation values they provide, and buffer zones along fresh surface waters and trails/greenways each has a close connection to the values articulated by Congress in the CELCP. In fact many of the attributes are by nature coexistent and can have positive impacts on more than one of the CELCP values. These five broad priorities helped identify the potential "project areas" within the CELC Plan, as well as impacted the selection criteria contained in the Plan.

Shoreline Environments: Significant properties with actual coastal shoreline access tend to be very rare, very valuable, and very expensive in Massachusetts where the vast majority of coastal shoreline is privately owned. Massachusetts is also one of the few states whose private shoreline ownership rights extend down to mean low water, with the state holding only limited public rights for fishing, fowling, and navigation within the inter-tidal area. These facts combine to make the majority of the Massachusetts coastline inaccessible to the general public, and therefore increase the importance of state acquisition of shoreline sites to provide for public access and protection of aesthetic values. Preventing development on certain coastal sites also has the potential to protect important ecological habitats. Such habitat protection may support rare, threatened, and endangered species, or may protect what were once common habitats that are becoming relatively uncommon in their undisturbed and natural state because of development. In any case, protection of these values is important for the overall protection of the coastal and estuarine areas of Massachusetts.

Other Coastal Environments: These environments are defined as developable areas within a 2000-foot buffer of either the shoreline or the Federal Emergency Management's (FEMA) V and VE flood zones.² While such areas may not be quite as desirable for development as immediate shoreline areas, they are still extremely sought after for development. These coastal environments can sometimes be highly valuable for habitat protection. From a state watershed planning perspective, these areas are almost always critically important for prevention of non-point source pollution impacts on coastal water bodies, and are often highly desirable for their recreation, aesthetic, and overall conservation values. The lowest lying areas within these buffers are often sites of ecologically valuable wetland resources, especially salt marsh. Low lying areas directly up gradient and adjacent to coastal wetlands are particularly important because they present the opportunity for future wetland development/creation in the event of significant sea-level rise.

Core Habitats: Selected coastal areas of Massachusetts have been identified as "core habitat" areas for rare species of flora and fauna. Sometimes these rare species are coastal in nature such as the Roseate Tern, Piping Plover, Diamondback Terrapin, and others. These species and their habitats are of the highest priority with the Massachusetts CELC Plan. In other cases these core habitats may be associated with rare species whose biology is more inland and not directly coastally related. Regardless of this fact, core habitats within the state's coastal zone are of high importance within the CELC Plan. For freshwater endangered species whose core habitats are

² FEMA defines the V Zone as an area inundated by 100-year flooding with velocity hazard (wave action) where Base Flood Elevations (BFEs) have not been determined; the VE Zone is defined as an area inundated by 100-year flooding with velocity hazard (wave action) where BFEs have been determined.

completely aquatic, the critical supporting watersheds associated with the core habitat areas were also included as priority areas. In general, these areas overlapped a great deal with the buffer zones established along fresh surface waters and discussed later in this section.

Large Undisturbed Habitats: The CELC Plan Advisory Group felt strongly about the value of protecting large properties and properties that abut or are adjacent to existing conservation holdings within the CELC Plan jurisdiction. These properties present opportunities to protect relatively undisturbed natural habitats, some of which may be rare and unique and others that at one time were common, but have become more and more rare in their undisturbed states, as development has altered and cut up what was once the original natural habitat. Providing large blocks of undisturbed habitat is a key to maintaining the natural biodiversity of plants and animals that make up the coastal and land portions of the Massachusetts Coastal Zone, whether they be rare species or more common species that are the backbone of the natural environment of the area. The Advisory Committee did not however believe that every large parcel in the planning area should be a priority. Instead, through its selection criteria, the Plan does give preference to large undisturbed properties that have been identified as potential "project areas" by other reasons.

Buffer Zones: One final protection priority contained within the CELC Plan is buffer zone areas along fresh surface waters leading to the coast, and also along trails and greenways within the planning area. Buffer zones have tremendous value from a water quality perspective. The coastal zone is widely impacted by pollutants that are transported to the coast via the connecting freshwater streams and rivers. Biological pollutants from roads and other surface runoff have the potential to close shellfish beds and swimming beaches, and cause significant public health concerns. Excess nitrogen can cause many coastal embayments, especially those that are poorly flushed, to become overly enriched with excessive algal growth. This condition is typically referred to as eutrophication, and can result in overall ecological habitat decline and destruction. Excess sediments and dramatic flow or temperature swings can also impact a stream's ability to serve as anadromous and catadromous fish runs or to provide forage for other coastal species. Effective buffer zone management is one of the best tools to ensure pollutants do not reach coastal waters. Buffer zone management along streams and rivers also helps to ensure adequate summer base flows to support the coastal and freshwater species that rely upon these streams and rivers. Although not an ecological issue, buffer zones along rivers can also help to maintain and protect certain river valley aquifers that many of our coastal communities rely upon for their drinking water supplies. Buffer zone areas along rivers and greenways also facilitate the migration of the natural fauna that inhabits the coastal zone. Finally, greenway and trail buffers provide valuable public access, and aesthetic and recreational opportunities to the people living in and near the Commonwealth's coastal areas, and help sustain a high quality of life.

C. Project Area Identification

Existing state planning efforts, which had input from regional and local plans and organizations, and other criteria developed during the CELC Plan process were used to develop the CELC Plan Map of potential "project areas." (These planning efforts are discussed in greater detail in Section D below.) One of the major categories of lands included in the Plan was the state mapped "Core Habitat" areas. In 2001 the Massachusetts Department of Fisheries, Wildlife & Environmental Law Enforcement, Division of Fisheries & Wildlife, Natural Heritage & Endangered Species Program (Now part of the renamed Massachusetts Department of Fish and Game) completed a planning document entitled "BioMap--Guiding Land Conservation for Biodiversity In Massachusetts" (BioMap). (See Attachment 1 for a copy of the BioMap report.)

The goal of the BioMap Project was to map terrestrial and wetland areas that were "most in need of protection to conserve biodiversity for generations to come" in Massachusetts. The BioMap identified "Core Habitat" areas as well as "Supporting Natural Landscape" areas for the terrestrial ecosystems of the entire state. These "Core Habitat" areas were automatically identified as priorities in a subsequent state planning effort know as the "Statewide Land Conservation Plan" (SLCP), and since the SLCP map/GIS overlays were a starting point for the CELC Plan, the terrestrial and wetland "Core Habitat" areas were included in the Plan. (See Attachment 2 for a copy of the SLCP Map.) "Core Habitat" areas contain the most viable populations of rare plant and animal species in the state, as well as the most viable natural communities, but not necessarily rare species, in Massachusetts.

While the SLCP included all the "Core Habitat" areas identified in the BioMap planning process, other areas were also identified through the SLCP planning process, and were therefore included in the CELC Plan. The SLCP used an elaborate and inclusive planning process to identify additional priority areas statewide for potential protection (discussed in detail starting on Page 11). In summary, the non-BioMap areas that received at least three positive votes by being identified in conservation plans from various planning entities, conservation organizations, or state agencies because of their value for the protection of water resources, habitat, working farms and forests, greenways, outdoor recreation sites, and urban parks, were also included in the priority areas for the SLCP. It should be noted that the SLCP's minimum mapping unit was three acres.

In 2003, following completion of both the BioMap project and the SLCP, the Massachusetts Department of Fisheries, Wildlife & Environmental Law Enforcement, Division of Fisheries & Wildlife, Natural Heritage & Endangered Species Program completed another important document entitled "Living Waters—Guiding the Protection of Freshwater Biodiversity in Massachusetts." (Living Waters) (See Attachment 3 for a copy of the Living Waters report.) This document was intended to be a complementary document to the BioMap document. The focus of the Living Waters report was "to identify and map the lakes, ponds, rivers, and streams that should be the highest priority for freshwater biodiversity conservation in Massachusetts." Similar to the BioMap project, these special areas were also referred to as "Core Habitats." These freshwater "Core Habitat" areas included the most important habitats for rare aquatic animals and plants and exemplary freshwater habitats. The Living Waters report also identified the "Critical Supporting Watershed" areas for each of these freshwater "Core Habitat" areas. These supporting watersheds included the portion of the watershed that had the greatest potential to sustain or degrade the "Core Habitat" ecosystem. Although the core habitats identified in the Living Waters report were freshwater systems, those located within the CELC Plan area are part of the complex natural ecosystem of the rivers and streams that flow directly into the coastal ecosystem. The decision was consequently made to include "Critical Supporting Watershed" areas as part of the CELC Plan's potential "project areas." Therefore the Living Water report was the third way by which lands were made priorities within the CELC Plan.

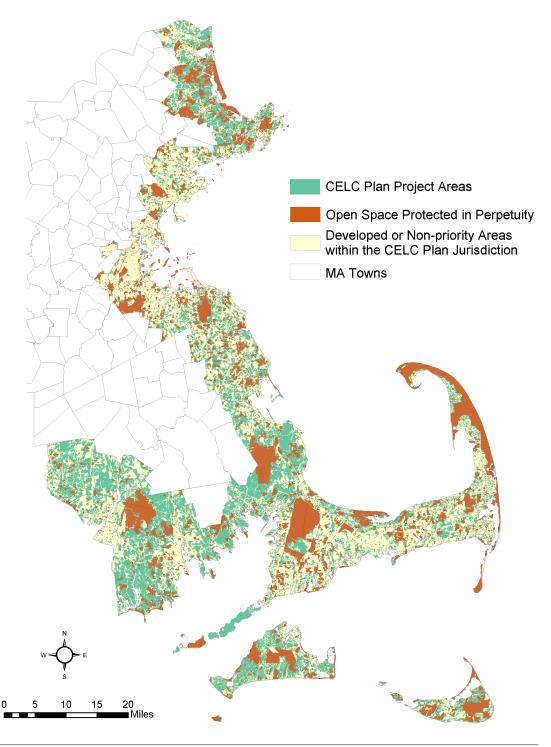
To ensure that the Massachusetts CELC Plan had a strong coastal focus and addressed state priorities, one final strategy was used to help identify potential "project areas." This strategy involved the use of buffer zones along selected features including the shoreline, flood zones, fresh surface waters, and regional trail networks. Undeveloped parcels within a 2,000-foot buffer to either the shoreline or V and VE flood zones as defined by FEMA, a 1,000-foot buffer to surface water streams, rivers, and ponds, or a 200-foot buffer to regional trail networks were included as potential "project areas." The 2,000-foot buffer along the coastline was added to

ensure the inclusion of all significant undeveloped coastal properties. There are very few of such coastal properties remaining and their inclusion as potential "project areas" was of high importance because of the high potential they have of addressing many of the five values identified in the CELCP. Lands adjacent to fresh surface waters are also key management areas for the protection and maintenance of coastal habitat and coastal water quality, especially the water quality of poorly flushed coastal embayments. Maintaining undeveloped areas along rivers, streams, and ponds that discharge to coastal waters helps reduce the likelihood of pollutants reaching coastal waters. These areas also have the potential to help coastal communities protect drinking water resources, although this is only of secondary importance within the CELC Plan. For these reasons the 1.000-foot buffer along these surface waters was included as one of the criteria for identifying potential "project areas". Pollutants such as nitrogen, bacteria, viruses, sediments, and excess thermal inputs can result in coastal habitat degradation through eutrophication, shellfish and beach closures because of public health concerns, and other habitat impacts. Finally, the state wished to encourage the development and protection of regional trail networks in the coastal areas of the state, and therefore established a 200-foot buffer along these trail networks. All three of these inclusions give coastal communities increased opportunity to use acquisition projects as land and growth management strategies to reduce future pollutant loads to coastal waters, and increase their use for conservation and recreation.

Undeveloped land in Massachusetts' coastal communities, especially land very near the coastline, is rapidly disappearing. The desire to live on or near the Massachusetts shoreline results in intense development pressures for the remaining undeveloped coastal properties. It is not surprising that the same limited universe of coastal properties also offer the greatest likelihood of having significant coastal ecological values, as well as presenting the best opportunities for public access, passive recreation, and scenic coastal vistas. The intense development of the coastal communities results in many of the remaining undeveloped parcels having an even greater conservation value to the people living around them.

Although the CELC Plan Advisory Group did not focus in detail on historic values, there was the realization that Massachusetts' historic development pattern tended to start at the shoreline in places such as Plymouth, Cape Cod and Boston and move westward across the state. Therefore, logic dictated that many historic sites would have a high likelihood of being located near the shoreline within some of the state's older towns.

The final CELC Plan map is located in Figure 2. The green areas are the potential "project areas" for the purposes of CELCP grant applications. The red areas are already protected open space areas within the 78 coastal communities, and the yellow represents the remaining areas of



Source: MassGIS, CZM, MA Executive Office of Environmental Affairs

FIGURE 2—CELC Plan Potential "Project Areas" (Note: Map displayed at this scale results in a loss of precision and the appearance of more green than if displayed at a larger scale. More detailed town-specific GIS coverages are available at: http://www.mass.gov/czm/celcp/index.htm.)

the coastal communities within the CELC Plan area. It should be noted that for all the potential "project areas" included in the CELC Plan outside of the SLCP process, the minimum mapping unit was one acre. The primary reason for this smaller mapping unit for these areas was to broaden the potential number of small urban parcels that would be identified as potential "project areas". Also, the land use source data used to screen the CELCP project areas were interpreted with a minimum mapping unit of 1 acre. The minimum mapping unit on the SLCP could not be changed because those smaller land units had long been eliminated from the SLCP database.

D. Description of Existing Plans Incorporated within this CELC Plan

An early decision faced by the Advisory Group on was whether the state should create its CELC Plan from scratch or whether it should build upon existing conservation planning efforts. Given NOAA's guidelines for plans to be "...fairly simple and concise, and make use of work that has already been done...," and also given the excellent conservation planning tools recently completed by the state, the decision was simple. As discussed above, the Massachusetts CELC Plan is based heavily on two previous state planning efforts; the "BioMap—Guiding Land Conservation for Biodiversity in Massachusetts" (BioMap), which was completed in 2001 by the State's Natural Heritage & Endangered Species Program (NHESP), and the "Statewide Land Conservation Plan" (SLCP), which was a broadly inclusive planning effort completed in 2002 by a Task Force established by the Massachusetts Executive Office of Environmental Affairs. The Massachusetts CELC Plan is also based to a lesser degree on a third state planning effort, the "Living Waters—Guiding the Protection of Freshwater Biodiversity in Massachusetts," also completed by the NHESP.

The BioMap report focuses on the identification of terrestrial and wetland areas most in need of protection for the purposes of conserving the biodiversity of Massachusetts, especially rare species and large natural communities. This planning effort included the identification of "Core Habitat" areas and "Supporting Natural Landscapes." The SLCP's primary focus was to identify priority areas for conservation based not just on biodiversity or ecological habitat, but also on water resources, working farms and forests, greenways and outdoor recreation sites, and urban parks. The Living Waters report focused on the identification of exemplary freshwater habitats and other specific freshwater habitats that are crucial to rare aquatic plants and animals. It also identifies those portions of the waterbody's contributing watershed that have the greatest potential to sustain or degrade the special freshwater habitat. All three of these planning efforts were statewide, but none had a particular coastal focus or coastal priority. Even though they lacked this coastal focus, they had much of the information needed for development of a specific coastal plan, and Massachusetts was very fortunate to have these three recently completed reports/plans as foundations upon which to build its CELC Plan.

BioMap: The BioMap was based on a state collected and maintained database of over 7,000 site-specific records of rare plants, animals, and natural communities that have been collected over a 22-year period. The terrestrial "Core Habitat" areas include multiple sites for 246 rare plant species, 129 rare animal species (vertebrates and invertebrates), and 92 natural community types. The report breaks down the information and presents it for 13 eco-regions across the state, four of which have overlap with the CELC Planning area. A copy of the BioMap report is included in Attachment 1 of this plan and additional information on the two data layers resulting from the BioMap biodiversity mapping project can be found at: http://www.mass.gov/dfwele/dfw/nhesp/nhbiomap.htm.

SLCP: The SLCP was developed by a 33-member task force that was appointed by the Commonwealth's Secretary of Environmental Affairs in the spring of 2001, and included state and regional land trusts, state and federal conservation agencies, statewide watershed and conservation commission organizations, a regional planning agency, and a conservation foundation. The goal of this task force was to use existing statewide and regional plans and other data to develop a strategy that would protect six major resource categories of the Commonwealth including: water resources, important habitat, working farms and forests, greenways, outdoor recreation sites, and urban parks of the Commonwealth. The plan also included specific acreage goals that should be protected by the partners and a discussion of the various tools that should be considered for conservation protection. The task force met eight times over about a one-year period. More than two-dozen plans and several maps covering the important resources were computerized. The SLCP used the habitat data contained in the BioMap project as a large component of the plan. Other areas were considered to have statewide or regional significance and were included in the SLCP if they were contained on three or more regional conservation planning efforts. (Note: On Cape Cod because of the large number or regional conservation plans, land areas had to be identified on at least four conservation planning efforts to be included in the SLCP.) The SLCP was a highly public process and reflects a consensus of the major land conservation interests in the Commonwealth. As mentioned earlier, almost all of the large land conservation organizations in Massachusetts were represented on the 33-member Task Force. The SLCP was further vetted to the public through five regional meetings to gain additional input and comment on the proposed plan. These public meetings resulted in the plan being finetuned to include goals for each of the different natural resources the plan aimed to protect (water resources, habitat, working lands, greenways, outdoor recreation sites, and urban parks). A copy of the SLCP Map is included in Attachment 2 of this Plan.

Living Waters: The Living Waters report was based on a state-collected and maintained database of more than 600 records of rare freshwater species collected over a 25-year period. The freshwater "Core Habitat" areas include multiple sites for 23 rare aquatic plant species, 24 rare invertebrate species, and 11 rare fish species, and exemplary habitats in various freshwater environments. The report breaks down the information and presents it for the 27 major watersheds across the state, 13 of which have full or partial overlap with the CELC Planning area. A copy of the Living Waters report is included in Attachment 3 of this plan, and additional information on the two data layers resulting from the Living Waters biodiversity mapping project can be found at: http://www.mass.gov/dfwele/dfw/nhesp/nhaqua.htm.

E. Final Selection of Massachusetts CELC Plan "Project Areas"

The general philosophy that guided the CELC Plan Advisory Group in identifying potential "project areas" was to be inclusive as reasonable. The desire was to allow specific project proponents the opportunity to make their case for the value of any proposed property in the solicitation process, and to have a strong pipeline of conservation projects to successfully compete at the federal level. Each of these three existing building blocks for the CELC Plan perfectly complemented the others, with the BioMap and Living Waters reports providing strong scientific-based information for terrestrial and freshwater habitat identification and with the SLCP then using this information and other data sources in a broad consensus-based planning effort. An early question faced by the CELC Plan Advisory Group was how the SLCP, including the BioMap information, should be modified to meet the needs and focus of a CELC Plan. First, the Advisory Group decided to modify SLCP by limiting the area included in the CELC Plan to only include the 78 coastal communities. (See the discussion starting on Page 3.) Second, the Advisory Group felt that the priority areas identified in the SLCP should be adjusted to be

consistent with the CELCP guidelines, and to add other priorities using buffer zones to strengthen the coastal focus of the CELC Plan. Finally, the Advisory Group added those areas of the Living Waters report that had not already been included in the CELC Plan through the first two steps.

One factor that played a large role in the SLCP process but was not consistent with NOAA's Guidelines for the CELCP was giving priority to active agricultural production. To resolve this inconsistency lands that were included in the SLCP solely because of their agricultural value were removed from consideration as potential "project areas." This was accomplished by removing the Massachusetts Department of Food and Agricultures votes from the original scoring in the SLCP. This agency was the one that focused on the agricultural value of lands and used it to the greatest extent in their voting. However, agricultural lands that were identified in the SLCP as having other important natural resource values were left in, because they could be protected for those purposes. Also it might be possible to protect the non-farm portions of a parcel for resource protection while relying on other funding sources to protect the farmland portion for of its agricultural value. The SLCP process also heavily weighted certain drinking water resources such a sole source aquifers, Zone II's, and high yield aquifers by awarding them two positive votes in the weighting scheme. This double counting for drinking water resources was eliminated for the purposes of the CELC Plan, however a single vote for a drinking water resource was retained. The Advisory Group wanted to keep drinking water in the CELC Plan as a consideration to help ensure sustainable development in coastal communities, but reduce its enhanced importance down to a level equal to other natural resources. These two modifications resulted in a small number of areas being removed from potential "priority area" designation.

Several additions were made to strengthen the CELC Plan's coastal focus by adding land areas likely to have important coastal resources to the potential "project area" designation. One of the modifications was addition of all undeveloped lands one acre or larger within 2,000 feet of the marine or estuarine shoreline or select flood zones. These areas are extremely valuable because they are likely to contain or be proximate to most of the highly valuable coastal habitats in the Commonwealth. They are also likely to include some of the very low-lying areas adjacent to salt marshes that are expected be important in the event of significant sea-level rise over the coming decades, because they will allow for landward retreat of those salt marsh systems. Another addition was undeveloped lands one acre or larger within 1,000 feet of major surface waters discharging to coastal waters. These lands, because of their direct link to coastal ecosystems through surface water streams or rivers, have the potential to impact coastal resources and habitats both directly, as in the case of anadromous and catadromous fish, and indirectly, as in the case of pollutants affecting primary productivity and public health in coastal waters. A third addition was a 200-foot buffer along both sides of existing and proposed regional trails within the planning area. These areas have the potential to impact and connect important recreational coastal resources. When combined, these three modifications significantly increased the areas identified as potential "project areas" within the CELC Plan.

A later decision made by the Advisory Group was to add the "Critical Supporting Watershed" areas of the freshwater "Core Habitat" areas. This layer was actually added after the SLCP had been tailored to include the various surface water buffer zones discussed above. GIS analysis revealed that the majority of the Living Waters "Critical Supporting Watershed" areas had already been included in the 1000-foot buffer zone areas. Consequently, this addition only changed the map of potential "project areas" minimally.

One additional minor edit to the SLCP map was the elimination of certain recently acquired conservation lands that were purchased since the time the original SLCP map was produced. It should also be noted that the minimum size of the mapping units included in this planning exercise was three acres. The CELC Plan Advisory Group also recognized that while most potential "project areas" are expected to have been included in this CELC Planning exercise, it might be possible to have not included some areas that have very high coastal and estuarine habitat values. With this situation in mind, a fail-safe provision has been included in our state eligibility requirements that allow applicants the opportunity to present a compelling argument why their specific project's location should have been included in the Commonwealth's CELC Plan "project areas." If, in the opinion of the Office of Coastal Zone Management, a compelling argument is presented, the project will then be allowed to compete with other projects submitted for consideration within the grant solicitation process.

The 78 coastal communities within the CELC Plan jurisdiction constitute approximately 22 percent of the total communities and 21 percent of the total land area within the Commonwealth. Permanently protected open space within those 78 coastal communities currently accounts for approximately22 percent of their total land area. Of the remaining 78 percent of land within those communities, about 34 percent has been identified within the CELC Plan as potential "project areas." The remaining 44 percent is either already developed areas or areas not identified as CELC Plan priorities.

III. MASSACHUSETTS CELC PLAN IMPLEMENTATION PROCESS

A. Massachusetts Lead Agency for CELCP

The Office of Coastal Zone Management (CZM) within the Executive Office of Environmental Affairs (EOEA) is the lead state agency within Massachusetts responsible for the development of the state's CELC Plan and implementation of the CELC Program. The Massachusetts Coastal Zone Management Plan was finalized by the state and approved by the NOAA in 1978. In 1983, state legislation was formally adopted to establish CZM, a part of the Executive Office of Environmental Affairs, as the lead state entity responsible for the implementation of the coastal program. During CELC Plan development, CZM worked closely with an advisory group of sister state and federal agencies, and also solicited comments from a select group of nongovernmental conservation organizations, as well as the 78 affected coastal communities and the public.

B. Agencies Eligible to Hold Title of Property Acquired Using CELCP Funds

NOAA guidelines require CELCP funds to be awarded to the state lead agency (CZM) or the state's National Estuarine Research Reserve (Waquoit Bay). Sub-awards can be made to other state or local governmental agencies. In most cases, CZM will pass funds to sister state agencies or eligible local governmental entities to hold title to the properties or easements acquired under this program. The following agencies are eligible to hold title to property or easements acquired using CELCP funds within Massachusetts.

- Massachusetts Department of Conservation and Recreation
- Massachusetts Department of Fish and Game
- Waquoit Bay National Estuarine Research Reserve (through the Department of Conservation and Recreation)

- Massachusetts Office of Coastal Zone Management
- Massachusetts Regional Planning Agencies with jurisdiction over portions of the Massachusetts Coastal Zone (Southeast Regional Planning and Economic Development District, Cape Cod Commission, Martha's Vineyard Planning Commission, Old Colony Regional Planning District, Metropolitan Area Planning Council, Merrimac Valley Planning Commission)
- Any of the 78 coastal communities having land within the Massachusetts Coastal Zone Boundary and identified as being within the jurisdiction of the Massachusetts CELC Plan. These include:
 Acushnet, Amesbury, Barnstable, Berkley, Beverly, Boston, Bourne, Braintree, Brewster, Chatham, Chelsea, Chilmark, Cohasset, Danvers, Dartmouth, Dennis, Dighton, Duxbury, Eastham, Edgartown, Essex, Everett, Fairhaven, Fall River, Falmouth, Freetown, Gay Head (Aquinnah), Gloucester, Gosnold, Hanover, Harwich, Hingham, Hull, Ipswich, Kingston, Lynn, Manchester, Marblehead, Marion, Marshfield, Mashpee, Mattapoisett, Milton, Nahant, Nantucket, New Bedford, Newbury, Newburyport, Norwell, Oak Bluffs, Orleans, Peabody, Pembroke, Plymouth, Provincetown, Quincy, Rehoboth, Revere, Rockport, Rowley, Salem, Salisbury, Sandwich, Saugus, Scituate, Seekonk, Somerset, Swampscott, Swansea, Tisbury, Truro, Wareham, Wellfleet, West Tisbury, Westport, Weymouth, Winthrop, Yarmouth.

C. Massachusetts CELCP Project Nomination Process

Upon initial notification from NOAA of the availability of CELCP funding under a competitive grant program, and following review of any specific NOAA selection criteria different from or in addition to what is already contained in the CELCP guidelines, CZM will prepare and distribute a CELCP Request for Responses (RFR). Typically this RFR will be the mechanism through which potential acquisition projects are solicited. Notice of the RFR will be sent to all state environmental agencies with a potential interest in using CELCP funds, regional planning agencies with jurisdiction in the coastal zone, and the 78 coastal communities with land within the Massachusetts Coastal Zone Boundary. The RFR will also be noticed on the CZM website and in CZ-Mail, CZM's electronic mail newsletter, and formally posted and made available through the state's normal proposal solicitation method (www.Comm-PASS.com).

Since issuance of this RFR will for legal reasons limit the amount of informal discussion between CZM and potential applicants, if there is adequate time notice from NOAA that CELCP funds are available in a particular year, CZM will make an effort to issue a Pre-Request for Responses notice to the same entities that will receive the RFR notification. This will allow enhanced coordination and discussion between CZM and potential applicants about the specifics of projects prior to the RFR issuance. However, the timing of any NOAA notice and subsequent application deadline may not provide adequate time for this enhanced coordination process to occur.

The RFR will include eligibility criteria that must be met for a project to be considered by the state and NOAA, and will also include the specific selection criteria that will be used by CZM to rank and prioritize prospective projects. In any particular year these criteria may be modified to address any priorities expressed by the Secretary of Environmental Affairs. These EOEA priorities could include a particular regional focus, natural resource focus, enhanced non-federal match, or a number of any other priorities.

A full copy of the preliminary RFR package is contained in Appendix A to this document. For ease of review, a copy of just the eligibility requirements can be found in Appendix B, and a copy of the selection criteria proposed to be used for state project ranking and selection can be found in Appendix C.

Following the application submittal deadline, a CELCP proposal review committee will be established by CZM to help review and rank proposals. The selection criteria contained in the RFR packet will be the primary mechanism by which projects are ranked. CZM will present CELCP priority recommendations to the Secretary of Environmental Affairs for final approval. Once these priority decisions are made, CZM and other state agencies would work with the selected project proponents to ensure that each of the selected applications is as competitive as possible before it is included in the Massachusetts comprehensive CELCP proposal package to NOAA. The Commonwealth will be looking to NOAA to provide guidance on the number and/or value of acquisition projects that may be acceptable and appropriate to be included within the comprehensive state application package that is submitted to NOAA.

Although the RFR process is intended to be the primary mechanism for project solicitations, if an adequate number of high quality acquisition project proposals are available to CZM from either state agencies or from municipal or regional projects proposed in response to previous RFRs, it is possible that in any given year the RFR solicitation process may be determined unnecessary and not utilized for that particular year.

IV. CELC PLAN COORDINATION AND PUBLIC INVOLVEMENT

A. Interagency Coordination During Plan Development

CZM began the CELC Plan interagency coordination prior to the issuance of the final program guidelines from NOAA. This pre-coordination involved a meeting with the EOEA Director of Watershed Policy in April of 2003. Following the issuance of the final guidelines from NOAA, a second meeting occurred with the EOEA Director of Land Policy in July of 2003 to share the final NOAA guidelines and discuss an approach for interagency coordination. At this meeting, it was agreed that CZM would be given the opportunity to speak to EOEA's Interagency Land Committee (ILC) to introduce all its participants to the CELCP. The ILC is comprised of representatives from all the environmental agencies involved in land acquisition within the Commonwealth of Massachusetts. This committee meets regularly to discuss and coordinate state land acquisition efforts. A presentation was made to the ILC regarding the CELCP in August of 2003. Following the presentation to the ILC, CZM invited all interested ILC members to participate on a CELC Plan Advisory Group. The task of this advisory group would be to work with CZM on the development of the Commonwealth's CELC Plan. The U. S. Fish and Wildlife Service was also contacted to provide a representative for the Massachusetts CELC Plan Advisory Group.

The participants on the CELC Plan Advisory Group included:

Christine Berry, MA Department of Conservation and Recreation-Division of State Parks and Recreation

James Comeau, MA Department of Conservation and Recreation-Division of Urban Parks and Recreation

Steve Hill, U. S. Fish and Wildlife Service

Dennis McNamara, MA Division of Fisheries & Wildlife/Department of Fish and Game Robert O'Connor, MA Executive Office of Environmental Affairs-Director of Land and Forest Policy

Jennifer Soper, MA Division of Conservation Services

David Janik, MA Office of Coastal Zone Management

Marc Carullo, MA Office of Coastal Zone Management-Geographic Information System Support

The CELC Plan Advisory Group first met in October of 2003. Over the next nine months this group met approximately seven times and had numerous other email exchanges and telephone conversations to develop a draft of the Plan. In addition to developing the draft plan that would help target coastal and estuarine land conservation within the state, considerable time was spent discussing and fine-tuning the solicitation process that would be used by the Commonwealth for inviting potential project applicants to submit projects to CZM for review and prioritization. Attention was also given to the actual criteria that would be used to rank and select projects to be nominated to NOAA for the national competitive process. The selection criteria format and some of the actual criteria were modeled after the process used by the Massachusetts Division of Conservation Services in their land acquisition decisions and process. Through the Fall of 2004 and the Winter of 2005 extensive coordination occurred within EOEA regarding the CELC Plan.

B. Public Involvement During Plan Development

Extensive opportunity existed for public input on the CELC Plan itself, as well as on the major building block of the CELC Plan, the SLCP.

As mentioned earlier, the SLCP was developed by a 33-member task force that was appointed by the Secretary of Environmental Affairs and which represented a broad cross section of state, federal, regional, and private agencies, commissions, and organizations. Dozens of conservation planning documents, many of which had their own public input and comment process, were used to create the SLCP. The SLCP was further vetted to the public through five regional public meetings in 2001 and 2002 to gain additional input and comment. These public meetings resulted in the SLCP being fine-tuned to include goals for each of the different natural resources the plan aimed to protect. The SLCP was created through a broad and inclusive public process and reflects a consensus of the major land conservation interests in the Commonwealth.

Given the relatively recent completion of the SLCP, the CELC Plan Advisory Group felt much of the SLCP public process and comment was still useful, relevant, and applicable. Because the CELC Plan used the SLCP as its major building blocks, the Advisory Group felt a measured public comment process was best for the CELC Plan, so as to avoid confusion and the perception of duplication of the SLCP public comment process.

From October 2003 until June 2004 the Advisory Group used existing plans and resources to develop the initial draft of the CELC Plan. In early June 2004 this initial draft CELC Plan was presented to twelve major land conservation NGOs active in Massachusetts for comment, and as a way to check and validate the early planning decisions made by the Advisory Group in the development of the draft plan. The CELC Plan Advisory Group felt strongly about the importance of having these influential conservation organizations in agreement with the general approach before holding any formal public meetings or a formal public comment period on the draft plan. Seven of the 12 organizations were able to attend the meeting, and all of them were supportive of the major planning decisions and general direction of the draft CELC Plan. Either

positive comments or no comments were received from the remaining five organizations not able to attend the June 2004 meeting. In general, these major land conservation organizations voiced their support for the plan and planning process, as well as for the overall Coastal and Estuarine Land Conservation Program. Their support extended to decisions and direction regarding delineation of the planning area, extensive use of previously existing state conservation planning documents, use of an RFR process coordinated by CZM as the mechanism to solicit potential project applications, general makeup of the RFR's eligibility requirements and selection criteria, and the methodology used to identify potential "project areas" within the plan.

Over the next ten months the CELC Plan was fine tuned and presented to the highest environmental officials in the state for their support prior to the final public comment phase. The plan and its supporting materials were also placed on the CZM web page for easy public access. On May 9, 2005 a letter inviting review and comment on the draft CELC Plan was sent from the Secretary of the Executive Office of Environmental Affairs to each of the Boards of Selectmen, Planning Boards, Conservation Commissions, and Open Space Committees in all of the 78 coastal communities within the jurisdiction of the plan. This letter also noticed two public meetings on the draft CECL Plan that were scheduled for June 9 and June 13. A notice was also included in the June 2005 issue of CZM's monthly electronic newsletter, CZ-Mail, which has a circulation of more than 1200 addresses, announcing the availability of the draft plan for review and comment, and the locations and times of the two public meetings.

While attendance at the public meetings was limited to about ten people (Appendix D), the general tone of the comments was very positive and constructive. Two written comments were also received, and these were also of a positive nature. Some of the most interesting comments included: a desire to have the plan become parcel level based instead of land use based, development of a GIS version map of the priority areas for public distribution, development of a fact sheet on the CELC Program, and inclusion of an overarching preference for National Estuary Research Reserve associated lands. These and other comments were all considered by the Advisory Group prior to the completion of the CELC Plan and its submittal to NOAA.

V. CELC PLAN CERTIFICATION AND APPROVAL

A. Plan's Consistency with the Massachusetts Coastal Zone Management Program Plan and CELC Plan Approval by the Massachusetts Office of Coastal Zone Management

The Massachusetts CELC Plan was prepared by the lead state agency, the Office of Coastal Zone Management, responsible for administering the federal consistency provision of the Coastal Zone Management Act. This CELC Plan is consistent with the enforceable policies of the Massachusetts Coastal Zone Management Program.

The Massachusetts CELC Plan is hereby approved by the Office of Coastal Zone Management.

Susan Snow-Cotter, Director

Date

APPENDIX A

CELC PLAN MODEL REQUEST FOR RESPONSES/SOLICITATION FOR PROJECTS

Note: This model RFR was slightly modified and successfully used in response to the November 2005 Federal Funding Notice from NOAA's Office of Ocean and Coastal Resources Management, to identify, select, and nominate the Massachusetts priority projects for consideration in the FY 2007 CELCP National Competitive Process.

APPENDIX B

Eligibility Requirements

In order for a proposed project to be evaluated by the state for ranking and possible submittal to NOAA for consideration for CELCP funding, all of the following eligibility requirements must be successfully met.

- Project application package is complete.
- Project application was received by CZM prior to the submittal deadline.
- Proposed project is located within the potential "project areas" identified in the Massachusetts CELC Plan, or the proposed project has demonstrated to the satisfaction of CZM that it should be defined as a potential "priority area".
- Proposed project meets the minimum 1:1 match requirement between federal and non-federal resources.
- Proposed project is to be held in public ownership or control for conservation purposes in perpetuity.
- Proposed project will allow general public access appropriate to resource limitations.
- Proposed project is important to one or more of the following values: conservation, recreational, ecological, historical, aesthetic, or the proposed project area is threatened by conversion from its natural or recreational state to other uses.
- Project application demonstrates a strategy for and ability to develop a full and effective Management Plan for the proposed land conservation project.
- Proposed project advances the goals or objectives of the MA Coastal Zone Management Program, Waquoit Bay National Estuarine Research Reserve Program, Buzzards Bay National Estuary Program, or Massachusetts Bay National Estuary Program.
- Proposed project is consistent with the Massachusetts approved coastal management program.

APPENDIX C

Selection Criteria

The Selection Criteria were developed by the CELC Plan Advisory Group over the course of several meetings. The criteria reflect many of the values identified in the CELCP and NOAAs guidelines for the program. They also reflect those factors that were of most importance to one or more members of the Advisory Group. Through the development of the Selection Criteria thought was given to how the criteria chosen by Massachusetts would impact the competitiveness of projects nominated from the state to a nationally competitive process.

In order to most effectively determine the relative weight of each selection criterion, the CELC Plan Advisory Group used the Analytic Hierarchy Process (AHP) (Saaty 1990). AHP is superior to simple voting/ranking systems as it breaks the decision into a series of "pairwise" comparisons where each criterion is compared to every other criterion. A consistent numerical scale is used for each decision. Each decision is made relative to the goals of the CELC Plan and Program. Once the numerical preference of one criterion over another is made, AHP utilizes complex matrix algebra to weight each criterion. AHP also includes a "consistency" rating that tracks the relative consistency of each "pairwise" decision. AHP is an excellent weighting tool to use with groups because it breaks down large decisions into separate elements in which choices are more tangible and disagreements easier to resolve. The final weight for each of the selection criteria resulted from the "pairwise" comparisons derived using the Expert Choice software package, which is a commercial adaptation of AHP. These weights were the basis for the actual number of points that can be awarded within each selection criteria.

APPENDIX C

Selection Criteria (continued)

Selection Criteria	Points awarded on a relative scale specific to the application pool ³	Maximum Potential Score
Ecological Value	Endangered or threatened species, coastal species or habitats, BioCore, others	20
Historical Value		4
Aesthetic Value	Ability of the public to appreciate it and the nature of its coastal theme	4
Recreational Value	Beach use, hiking, biking, picnicking, birding, educational, etc.	10
Conservation Value	A conglomerate of all resource values ⁴	8
Present and Future Conversion Threats	Based on imminence of development ⁵	4
Proximity to coastline	Project includes shoreline, adjacent to shoreline, within 2,000-foot buffer, etc.	17
Project builds upon existing federal, state, or local conservation holding, or has the ability through the proposed or future acquisitions to become significant conservation holding		9
Project of a size to have significant regional profile or impact		9
Project within 1,000-foot tributary buffer	Degree to which protection is likely to positively impact water quality of the receiving coastal waters	3
Project is cooperative effort between two or more municipalities, state or federal agencies, non-profit organization	Cooperative defined as substantively contributing to application development or the provision of financial or management resources	1
Project match exceeds minimum non-federal match requirement	1 point awarded for each 0.15 above the 1:1 required match	2
Project included in local regional Open Space Plan		1
Project has potential to provide easy access to significant urban populations	Distance from urban populations, presence of public transportation, etc.	6
Project builds local and regional trail-ways connections		2
Total Points		100^{6}

-

³ This is to make prioritization within a grant round easier, and also to ensure that the state's highest ranked projects have a corresponding high score. It will not however allow ranking or comparing proposals between grant rounds, only within that specific grant round.

⁴ The Advisory Group debated the intended meaning of conservation, and decided that this would represent all possible conservation values and would therefore reward projects that had a wider range of conservation values.

⁵ The Advisory Group debated the benefits and detriments of pursuing projects on the verge of development and whether or not those should be the highest priority. It was decided that all undeveloped lands within this CELC Plan area are threatened by development in the relatively near future, and that only minimal benefit should be given to those facing imminent threat.

⁶ Since many of the Selection Criteria are mutually exclusive, it is not possible for a project to receive a perfect score of 100.

APPENDIX D

CELC Plan Public Meeting Attendees June 9, 2005 Boston, CZM Conf. Room

Peg Wheeler The Trustees of Reservations 978-840-4446 x1916 mwheeler@ttor.org

Bob O'Connor EOEA 617-626-1170 Robert.oconnor@state.ma.us Bob Wilbur MA Audubon 781-259-2155 rwilbur@massaudubon.org

June 13, 2005 Plymouth, Public Library

Michael Lach
The Compact of Cape Cod Conservation
Trusts, Inc.
508-362-3422
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Liz Sullivan
Plymouth, Conservation Planner
508-740-1620 x140
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Joe Grady Duxbury 781-934-1104 grady@town.duxbury.ma.us

Paul Cavanagh Manomet Center for Conservation Sciences 508-224-6521 pcavanagh@manomet.org Brian Harrington Manomet Center for Conservation Sciences 508-224-6521 <u>bharr@manomet.org</u>

John Sanguilet Truro 508-349-7004 jjsanguinet@truro-ma.gov

Eve Endicott
The Trustees of Reservations
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Written comments also received from: Paul Cavanagh, Manomet Center for Conservation Sciences Christine Gault, Waquoit Bay National Estuarine Research Reserve

ATTACHMENT 1

BIOMAP REPORT

ATTACHMENT 2

MASSACHUSETTS STATEWIDE LAND CONSERVATION PLAN MAP

Note: A final written report was never published for this planning exercise and therefore can not be included in this attachment.

ATTACHMENT 3

LIVING WATERS REPORT